

WHAT IS CLAIMED IS:

1. A calling method of a flexible IP Internet phone in an Internet phone system providing Internet communication service, comprising:
 - registering an IP address allocated to a flexible IP Internet phone in an IP storing server; and
 - extracting the IP address when a call with the flexible IP Internet phone is required.
2. The method of claim 1, wherein registering the IP address comprises:
 - receiving an IP address allocation from an Internet service provider by connecting the flexible IP Internet phone to the Internet; and
 - storing the allocated IP address in the IP storing server along with an identification number of the flexible IP Internet phone.
3. The method of claim 1, wherein the allocated IP address is associated with a terminal number of the flexible IP Internet phone in a database of the IP storing server.
4. The method of claim 1, wherein extracting the IP address comprises:
 - generating a call requirement in a calling IP Internet phone to the flexible IP Internet phone; and
 - extracting the IP address of the flexible IP Internet phone from the IP storing server.

5. The method of claim 4, wherein the calling IP Internet phone is one of a fixed IP Internet phone and another flexible IP Internet phone.
6. The method of claim 1, wherein the IP storing server updates and stores the IP address whenever the IP address of the flexible IP Internet phone is changed.
7. The method of claim 1, wherein the IP storing server is configured to store a terminal generic number and the IP address transmitted from the flexible IP Internet phone in a table form.
8. A calling method of a flexible IP Internet phone, comprising:
 - allocating an IP address to a flexible IP Internet phone connected to an Internet network;
 - registering the IP address allocated to the flexible IP Internet phone in an IP storing server;
 - extracting the IP address of the flexible IP Internet phone by one of a calling flexible IP Internet phone and a calling fixed IP Internet phone; and
 - connecting to the flexible IP Internet phone using extracted IP address.
9. The method of claim 8, further comprising allocating a new IP address to the flexible IP Internet phone when the call with the flexible IP Internet phone ends.

10. The method of claim 8, wherein the IP storing server is configured to store a terminal generic number and the IP address transmitted from the flexible IP Internet phone in a table form.

11. The method of claim 10, wherein the terminal generic number is a reference used to locate the IP address in the IP storing server.

12. The method of claim 8, wherein the IP storing server updates and stores the IP address whenever the IP address of the flexible IP Internet phone is changed.

13. A method of performing IP Internet communication, comprising:
receiving an allocation of an IP address from Internet service provider (ISP) by a flexible IP Internet phone when the flexible IP Internet phone connects to the ISP; and
storing the allocated IP address in a data table of a storing server along with a terminal number of the flexible IP Internet phone, wherein the data table is configured to receive a query including the terminal number of the flexible IP Internet phone and return the associated IP address in response to the query.

14. The method of claim 13, further comprising receiving an incoming call to the flexible IP Internet phone by a calling party that has identified the IP address of the flexible IP phone from a query to the data table.

15. A method of calling a target flexible IP Internet phone having no fixed IP address, comprising:

searching a database having stored therein a current IP address associated with a terminal number of the target flexible IP Internet phone;

retrieving the IP address assigned to the target flexible IP Internet phone; and

establishing communication to the target flexible IP Internet phone using the retrieved IP address.

16. The method of claim 15, wherein the IP address is assigned to the target flexible IP Internet phone by an Internet service provider (ISP) when the flexible IP Internet phone connects to the ISP.

17. An Internet protocol (IP) communication system, comprising:

at least one flexible IP Internet phone having a terminal number;

an Internet service provider (ISP) configured to assign a current IP address to the at least one flexible IP Internet phone when the at least one flexible IP Internet phone connects to the ISP; and

an IP storing server configured to store a table of data associating the terminal number of the at least one flexible IP Internet phone with the assigned IP address.

18. The system of claim 17, further comprising at least one second IP Internet phone, configured to search the IP storing server to determine the current IP address of the at least one flexible IP Internet phone to establish communication with the at least one flexible IP Internet phone.

19. The system of claim 18, wherein the at least one second IP Internet phone is one of a fixed IP Internet phone and a flexible IP Internet phone.

20. The system of claim 18, wherein the at least one flexible IP Internet phone is configured to provide the current IP address and the terminal number to the IP storing server when the ISP assigns the current IP address.